

detected. It is not possible to differentiate between live and non-live cables. The maximum detection depth is 6 cm (2.3 in).

NOTE

Concrete takes several months to dry out fully.

5.2.4 Floor heating

The “Floor heating” scanning mode is particularly suitable for detecting metal, metal composite and water-filled plastic pipes or electric cables under a layer of screed. The maximum detection depth is 8 cm (3.2 in).

NOTE

Empty plastic pipes will not be found.

NOTE

Pay attention to how the tool is oriented in the area of heating pipe loops (i.e. end bends in floor heating systems). It is necessary to scan in several paths and in both directions.

5.2.5 Drywall

The “Drywall” scanning mode is suitable for detecting wood beams, metal studs, pipes containing water and electric cables in drywall partitions. The maximum detection depth is 8 cm (3.2 in).

NOTE

Empty plastic pipes will not be found.

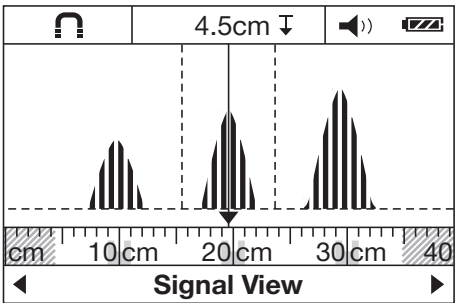
5.2.6 Hollow brick

The “Hollow brick” scanning mode is suitable for use on masonry containing many cavities. Cavities are filtered out to a great extent (i.e. not shown) in this scanning mode. In this mode, metal objects, water-filled plastic pipes and live electric cables will be detected. The maximum detection depth is 8 cm (3.2 in).

NOTE

Empty plastic pipes and cables that are not live will not be shown.

5.2.7 Signal view



The “Signal View” scanning mode is suitable for use on all types of materials. The signal strength at each position in the scan is shown. This scanning mode makes it possible

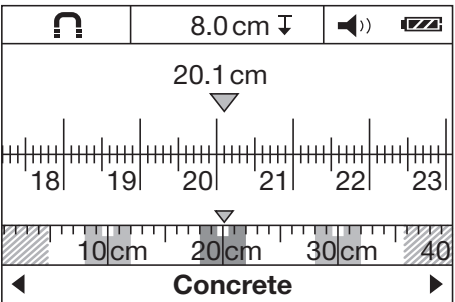
to locate closely spaced objects precisely and allows a better assessment to be made of complexly structured materials on the basis of signal variations.

The signal peaks are shown as rectangles along the small scale above the scanning mode indicator bar. Object depth and, where possible, object class are shown. The maximum detection depth is 15 cm (6 in).

NOTE

No conclusion about object depth can be reached from the strength of the signal.

5.3 Distance measurement view



In all scanning modes, the tool can be switched to distance measurement view. Only the display is switched over when this is done, not the selected scanning mode.

NOTE

When distance measurement view is selected it is possible to determine the distance between objects. In the example shown in the illustration, three equally-spaced objects are detected. The length of the scan measured from the starting point is 20.1 cm (7.9 in). The three objects detected, spaced at a distance of 10 cm (3.9 in) from each other, are shown as rectangles along the small scale positioned above the scanning mode indicator bar.

5.4 Materials suitable for scanning






- Concrete / steel reinforced concrete
- Masonry (brick, cellular concrete, expanded concrete, pumice concrete and sand-lime block)
- Beneath surfaces such as plaster, tiles, wallpaper, parquet and carpet
- Wood and plasterboard / gypsum board

5.5 Detectable objects

- Steel reinforcing bars
- Metal pipes (e.g. steel, copper and aluminium)
- Plastic pipes (e.g. plastic pipes containing water, such as in floor or wall heating systems, etc.)
- Cavities
- Wood beams
- Electric cables (irrespective of whether the cables are live or not)

- Three-phase electric cables (e.g. for electric cookers)
- Low-voltage cables (e.g. for doorbells or telephones)

5.6 Indication of object class

	Ferrous metal	Steel reinforcement (rebars) and water-filled plastic pipes
	Non-ferrous metal	e.g. copper or aluminium pipes
	Non-metallic	e.g. plastic pipes, wood beams and cavities
	Live electric cables	e.g. live AC cables, live low-voltage cables or live three-phase cables
	Unknown objects	Unknown objects, including objects at a depth of more than 6 cm

5.7 Indication of detection status

Status LED	The LED lights green.	No object detected.
	The LED lights red.	Object detected.
	The LED blinks red.	The object detected is very probably live (i.e. carrying electric current).

5.8 Scanning limitations

Due to the scanning principle employed, certain unfavorable circumstances may negatively affect the result:

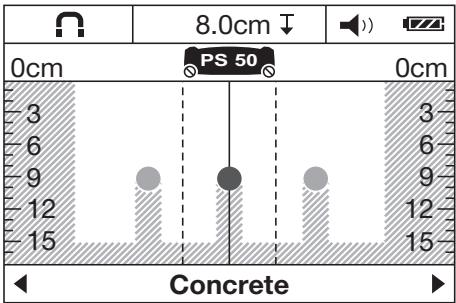
- Walls or floors consisting of multiple layers
- Empty plastic pipes in hollow brick, wood beams in cavities and in drywall partitions
- Objects that run through the wall, floor or ceiling at an angle
- Metal surfaces and damp areas; under certain circumstances, these may be detected as objects in the material scanned
- Cavities in the material scanned; these may be detected as objects
- Proximity to appliances that emit powerful magnetic or electromagnetic fields, e.g. mobile phone / cordless phone base stations or generators

5.9 Examples of scan results

NOTE

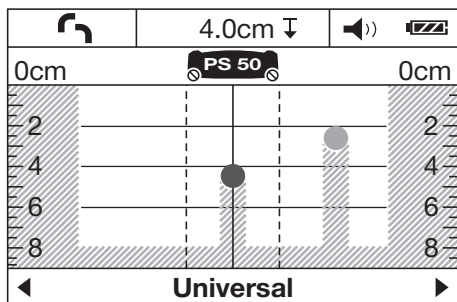
In the following examples the signal tone is switched on.

5.9.1 Steel reinforcing bars



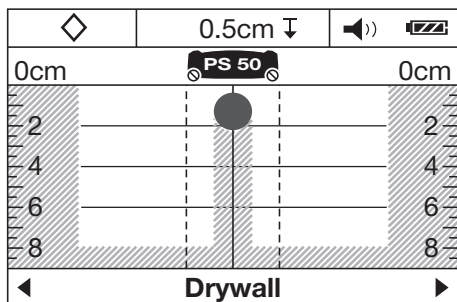
A steel object, e.g. a steel rebar, is present in the sensor area. To the left and right of this are other objects which are outside the sensor area. The depth of the object is approx. 8 cm (3.1 in). The tool emits a signal tone.

5.9.2 Copper pipes



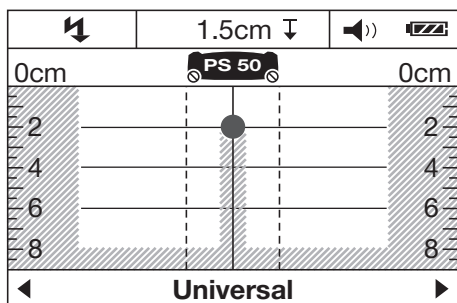
A non-ferrous metal object, e.g. a copper pipe, is within the sensor area. It lies at a depth of approx. 4 cm (1.6 in). The tool emits a signal tone.

5.9.3 Plastic or wooden objects



A non-metallic object is within the sensor area. The object is made of plastic or wood (or is a cavity) and lies close to the surface. The tool emits a signal tone.

5.9.4 Live electric cables



NOTE

Depending on the size and depth of the object, it is not always possible to determine without doubt whether it is live (i.e. carrying electricity).

NOTE

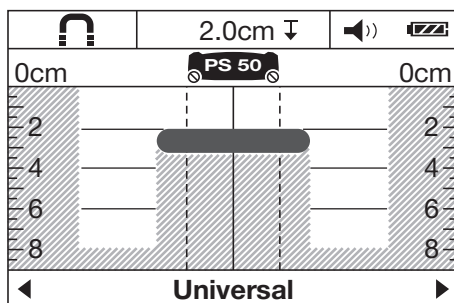
When scanning, do not lay your hands on the surface of the material.

NOTE

Live cables can be detected more reliably when the scanner is moved slowly.

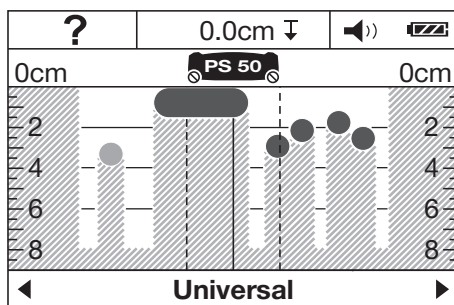
A live metallic object, e.g. an electric cable, is within the sensor area. It lies at a depth of approx. 1.5 cm (0.6 in). The tool emits a warning signal tone for "live cables" as soon as the electric cable is detected by the sensor.

5.9.5 Objects with a large surface area



A metal object with a large surface area, e.g. a metal plate, is within the sensor area. It lies at a depth of approx. 2 cm (0.8 in). The tool emits a signal tone.

5.9.6 Unclear signals 4



If a very large number of objects are shown it is possible that the wall contains many cavities (e.g. hollow brick) or the scan has been made along the length of a long object.

NOTE

By making additional scans parallel to the first scan, above and below, and marking the position of any objects detected, it is possible to determine the course followed by long objects. Offset marks are an indication of cavities.

NOTE

In the "Hollow brick" scanning mode, cavities are filtered out to a great extent (i.e. not shown).

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